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DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

Petition for Exemption from the

Federal Motor Vehicle Theft Prevention Standard;

General Motors LLC

AGENCY: National Highway Traffic Safety Administration, Department of Transportation (DOT)

ACTION: Grant of petition for exemption.

SUMMARY: This document grants in full the General Motors LLC's (GM) petition for an exemption of the Chevrolet Volt vehicle line in accordance with 49 CFR Part 543, Exemption from Vehicle Theft Prevention Standard. This petition is granted because the agency has determined that the antitheft device to be placed on the line as standard equipment is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of 49 CFR Part 541, Federal Motor Vehicle Theft Prevention Standard (Theft Prevention Standard).

DATES: The exemption granted by this notice is effective beginning with the 2018 model year (MY).

FOR FURTHER INFORMATION CONTACT: Ms. Deborah Mazyck, Office of International Policy, Fuel Economy and Consumer Programs, NHTSA, W43-443, 1200 New Jersey Avenue, S.E., Washington, D.C. 20590. Ms. Mazyck's phone number is (202) 366-4139. Her fax number is (202) 493-2990.

SUPPLEMENTAL INFORMATION: In a petition dated October 6, 2016, GM requested an exemption from the parts-marking requirements of the Theft Prevention Standard for the Chevrolet Volt vehicle line beginning with MY 2018. The petition requested an exemption from parts-marking pursuant to 49 CFR Part 543, Exemption from Vehicle Theft Prevention Standard, based on the installation of an antitheft device as standard equipment for the entire vehicle line.

Under 49 CFR Part 543.5(a), a manufacturer may petition NHTSA to grant an exemption for one vehicle line per model year. In its petition, GM provided a detailed description and diagram of the identity, design, and location of the components of the antitheft device for the MY 2018 Chevrolet Volt vehicle line. GM stated that its Chevrolet Volt vehicle line will be installed with the PASS-Key III+ antitheft device as standard equipment. The PASS-Key III+ is a passive, transponder based, electronic engine immobilizer antitheft device. GM stated that a keyless ignition system will be installed on its Chevrolet Volt vehicle line. Key components of its PASS-Key III+ system will include an electronically-coded ignition key, a body control module (BCM) with integrated PASS-Key III+ controller, engine control module (ECM), immobilizer exciter module, radio frequency (RF) receiver module, passive antenna module and low frequency antennas (LF). The electronic key is incorporated within a remote key fob. The key fob contains buttons to perform normal remote keyless door entry functions. GM stated that the device will provide protection against unauthorized use (i.e., starting and engine fueling), but will not provide any visible or audible indication of unauthorized vehicle entry (i.e., flashing lights or horn alarm).

GM's submission is considered a complete petition as required by 49 CFR 543.7, in that it meets the general requirements contained in §543.5 and the specific content requirements of

§543.6.

In addressing the specific content requirements of 543.6, GM provided information on the reliability and durability of its proposed device. To ensure reliability and durability of the device, GM conducted tests based on its own specified standards. GM provided information on the specific tests it uses to validate the integrity, durability and reliability of the PASS-Key III+ device and believes that the device is reliable and durable since the components must operate as designed after each test. GM also stated that the design and assembly processes of the PASS-Key III+ subsystem and components are validated for 10 years of vehicle life and 150,000 miles of performance. The PASS-Key III+ incorporates a higher level of electrical sophistication by utilizing an electronic key that is protected from electrical duplication.

GM stated that the PASS-Key III+ device is designed to be active at all times without direct intervention by the vehicle operator. No separate intentional action to turn on the security system is needed to achieve protection. Activation of the device occurs when the operator pushes the engine Start/Stop switch to the “OFF” position. Deactivation of the immobilizer device occurs when a valid key and matching immobilization code is verified, allowing the engine to start and continue normal operations. When the operator pushes the Engine Start/Stop switch to begin vehicle operation, the vehicle transmits randomly generated data and a vehicle identifier within the passenger compartment of the vehicle through three low-frequency antennas that is controlled by the passive antenna module. The electronic key receives the data and compares its vehicle identifier with the identifier previously assigned to the vehicle. If the vehicle identifier matches the identifier of the vehicle for which the key is programmed, the electronic key will transmit a response through the RF channel to a vehicle mounted receiver.

The PASS-Key III+ control module receives the RF transmission and compares the received response with an internally calculated response. If the values match, the key is recognized as valid and a password is then transmitted through a serial data link to the ECM to enable fueling and vehicle starting. If an invalid key code is detected, the system will not transmit a password to the ECM to allow operation of the vehicle. Additionally, if an invalid electronic key code is received, the vehicle will not be allowed to transition from the “Off” mode to the “Accessory”, “On”, or “Start” mode positions inhibiting starting, ignition, and fuel flow of the vehicle.

GM further stated that the ignition key contains electronics which provides billions of possible electronic combinations. The electronics receive energy and data from the antenna module. Upon receipt of the data, and a vehicle indicator match, the electronic key will calculate a response to the data using an internal encryption algorithm and transmit the response back to the vehicle. The antenna module then translates the radio frequency signal received from the key into a digital signal and passes the signal on to the controller module. The controller module then compares the received response to an internally calculated value. If the values match, the key is recognized as valid and a password is transmitted through a serial data link to the ECM to enable fueling and vehicle starting. GM also stated that a secondary data challenge and response process using another encryption algorithm must be validated by the engine controller to allow continued operation. If an invalid key code is received, the PASS-Key III+ controller module will send a “Disable Password” to the engine control module and starting, ignition, and fuel flow will be inhibited.

GM stated that the PASS-Key III+ device has been designed to enhance the functionality and theft protection provided by its first, second and third generation PASS-Key, PASS-Key II,

and PASS-Key III devices. GM also referenced data provided by the American Automobile Manufacturers Association (AAMA) in support of the effectiveness of GM's PASS-Key devices in reducing and deterring motor vehicle theft found in the AAMA's comments referencing the agency's Preliminary Report on "Auto Theft and Recovery Effects of the Anti-Car Theft Act of 1992 and the Motor Vehicle Theft Law Enforcement Act of 1984", (Docket 97-042; Notice 1).

GM also noted that theft data have indicated a decline in theft rates for vehicle lines equipped with comparable devices that have received full exemptions from the parts-marking requirements. GM stated that the theft data, as provided by the Federal Bureau of Investigation's National Crime Information Center (NCIC) and compiled by the agency, show that theft rates are lower for exempted GM models equipped with the PASS-Key like systems than the theft rates for earlier models with similar appearance and construction that were parts-marked. Based on the performance of the PASS-Key, PASS-Key II, and PASS-Key III devices on other GM models, and the advanced technology utilized in PASS-Key III+, GM believes that the PASS-Key III+ device will be more effective in deterring theft than the parts-marking requirements of 49 CFR Part 541.

GM stated that it believes that PASS-Key III+ devices will be at least as effective in deterring theft as the parts-marking requirements and that the agency should find that installation of the PASS-Key III+ device on the Chevrolet Volt vehicle line is sufficient to qualify it for full exemption from the parts-marking requirements.

Based on the evidence submitted by GM, the agency believes that the antitheft device for the Chevrolet Volt vehicle line is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of the Theft Prevention Standard (49

CFR 541).

GM's proposed device lacks an audible or visible alarm. Therefore, this device cannot perform one of the functions listed in 49 CFR Part 543.6(a)(3), that is, to call attention to unauthorized attempts to enter or move the vehicle. The agency concludes that the device will provide the four of the five types of performance listed in §543.6(a)(3): promoting activation; preventing defeat or circumvention of the device by unauthorized persons; preventing operation of the vehicle by unauthorized entrants; and ensuring the reliability and durability of the device.

Pursuant to 49 U.S.C. 33106 and 49 CFR 543.7 (b), the agency grants a petition for exemption from the parts-marking requirements of Part 541 either in whole or in part, if it determines that, based upon substantial evidence, the standard equipment antitheft device is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of Part 541. The agency finds that GM has provided adequate reasons for its belief that the antitheft device for the Chevrolet Volt vehicle line is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of the Theft Prevention Standard (49 CFR Part 541). This conclusion is based on the information GM provided about its device.

For the foregoing reasons, the agency hereby grants in full GM's petition for exemption for the Chevrolet Volt vehicle line from the parts-marking requirements of 49 CFR Part 541 beginning with the 2018 model year. The agency notes that 49 CFR Part 541, Appendix A-1, identifies those lines that are exempted from the Theft Prevention Standard for a given model year. 49 CFR Part 543.7(f) contains publication requirements incident to the disposition of all Part 543 petitions. Advanced listing, including the release of future product nameplates, the

beginning model year for which the petition is granted and a general description of the antitheft device is necessary in order to notify law enforcement agencies of new vehicle lines exempted from the parts-marking requirements of the Theft Prevention Standard.

If GM decides not to use the exemption for this line, it should formally notify the agency. If such a decision is made, the line must be fully marked according to the requirements under 49 CFR Parts 541.5 and 541.6 (marking of major component parts and replacement parts).

NHTSA notes that if GM wishes in the future to modify the device on which this exemption is based, the company may have to submit a petition to modify the exemption. Part 543.7(d) states that a Part 543 exemption applies only to vehicles that belong to a line exempted under this part and equipped with the antitheft device on which the line's exemption is based. Further, Part 543.9(c)(2) provides for the submission of petitions "to modify an exemption to permit the use of an antitheft device similar to but differing from the one specified in that exemption."

The agency wishes to minimize the administrative burden that Part 543.9(c)(2) could place on exempted vehicle manufacturers and itself. The agency did not intend in drafting Part 543 to require the submission of a modification petition for every change to the components or design of an antitheft device. The significance of many such changes could be *de minimis*. Therefore, NHTSA suggests that if the manufacturer contemplates making any changes, the effects of which might be characterized as *de minimis*, it should consult the agency before preparing and submitting a petition to modify.

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Raymond R. Posten
Associate Administrator for Rulemaking

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